PART A

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES
PRIVATE WELLS and TYPE IIB and III PUBLIC WELLS
(Following the criteria listed in Waste Storage Facility Practice Standard, Table 1)

Producer Name: Walnutdale **County:** Allegan

Farm location: **Township** 04N **Range** 12W **Section** 13 SW ¼ of SW ¼ of NW ¼

Farm address: 4309 14th St Wayland MI 49348

Prepared by: JVS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Instructions: Enter the appropriate information for each step in the order they are presented and follow the directions provided after each step. Attach a map of the farmstead showing the locations and identifications for all waste storage facilities and wells included in the worksheet. **This completed worksheet must be filed with the records for this farm.**

Note: Wells must be properly constructed and unused wells properly abandoned, as determined by the Michigan Department of Environmental Quality, local health department, or a registered well drilling contractor and bacteriologic and nitrate standard levels meet drinking water standards.

1. Are there any wells located within 800 feet of any existing or planned waste storage facility on the farm? YES / NO (circle one)
   If YES, complete Part B for each well located within 800 feet before proceeding to Step 2.
   If NO, you may proceed with assistance without further consideration of well isolation distances.

2. Are there any wells noted in any Part B-2 where the Actual Isolation Distance from a waste storage facility is **less** than the Minimum Isolation Distance? YES / NO (circle one)
   If YES and the waste storage facility is **existing**, proceed to step 3.
   If YES and the waste storage facility is **planned**, proceed to step 4.
   If NO, proceed with design and construction assistance. Do not proceed to Steps 3 or 4.

3. **Existing** waste storage facilities
   - For each well where the actual isolation distance from an **existing** waste storage facility is not adequate, the Comprehensive Nutrient Management Plan (CNMP) must include the notation below. No corrective action date is necessary.

     The isolation distance for well Barn *from existing waste storage facility* Catch Basin & Pit 6 *does not appear to meet minimum State of Michigan isolation distance requirements.*

4. **Planned** waste storage facilities
   - For each well where the actual isolation distance from a **planned** waste storage facility is not adequate, the CNMP must include the notation below. The corrective action and scheduled date must be shown in the CNMP Schedule of Implementation.

     The isolation distance for well _____ *from planned waste storage facility* _____ *does not appear to meet minimum State of Michigan isolation distance requirements. Corrective action to the well or waste storage facility must be taken prior to operation of the planned waste storage facility.*

   - Verify in Part B-1 step 7 when corrective action, as noted in Part B-1 step 5, is fully implemented.

Isolation Distance Reduction for Part B-2			
Isolation distance reduction allowed down to 400 feet where at least one of the following Protection Factor combinations is documented in Part B-2	Isolation distance reduction allowed down to 200 feet where at least one of the following Protection Factor combinations is documented in Part B-2		
A or, B+D or, C+D or, F	A+B A+C A+D A+F	or, or, or, or,	F+E or, F+B+C or, F+B+D or, F+C+D

PART B-1

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES
And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS
(following the criteria listed in Waste Storage Facility Practice Standard, Table 1)

Producer Name: Walnutdale **County:** Allegan

Well Identification: Along Rd (1992)

Prepared by: JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Instructions: Complete a separate Part B for each well within 800 feet of any existing or planned waste storage facility on the farm. **Attach a copy of the well record, if available.**

1. Has the Michigan Department of Environmental Quality or the local health department issued a permit or a deviation for this well in full consideration of the location of **any** existing or planned waste storage facilities located within 800 feet of this well? YES / (NO) (circle one)
   If YES, use the isolation distance allowed by the permit or deviation and record that distance in the Minimum Well Isolation Distance block on Part B-2 for each Waste Storage Facility where the permit or deviation applies (attach copy of permit or deviation). Proceed to step 2.
   If NO, proceed to step 2.
2. Does the well casing extend at **least** 25 feet below the ground surface? (YES) / NO (circle one)
   If YES, proceed to step 3.
   If NO, casing depth is less than allowed by state of Michigan law. Unless casing depth is extended to at least 25 feet, a variance is required from MDEQ or the local health department in order to proceed.
3. Do any of the following conditions apply?
   The well record indicates the well is a Type IIb or Type III public well. YES / (NO) (circle one)
   The well is used for the milkhouse or milking parlor for a Grade A dairy. (YES) / NO (circle one)
   The well is connected to a potable plumbing system and is on a farm that has at least one employee at any time during the year. (YES) / NO (circle one)
   If YES to **any** of the above conditions, this is a public well. Proceed to Step 4.
   If NO to **all** of the above conditions, this is a private well. Proceed to Part B-2 recording 150 feet in the Minimum Well Isolation Distance block.
4. Is the well capacity **less** than 70 gallons per minute? (YES) / NO (circle one) Is the project withdrawal average not more than 100,000 gallons per day for any 30 consecutive days? YES / NO (circle one)
   If YES to **either** question, proceed to Part B-2.
   If NO to **both** questions, capacity exceeds the limit established by MDEQ. Unless capacity or withdrawal is reduced, a variance is required from MDEQ or the local health department in order to proceed.
5. Are there any **planned** waste storage facilities noted in Part B-2 where the Actual Isolation Distance is **less** than the Minimum Isolation Distance? YES / (NO) (circle one)
   If YES, proceed to step 6.
   If NO, proceed to Part A step 2.
6. List the **planned** waste storage facility(s) and the correction action(s) needed so the Actual Isolation Distance is equal to or greater than the Minimum Isolation Distance then proceed to Part A step 2.

Planned Waste Storage Facility	Corrective Action(s) Required

7. **Verification of Corrective Action:** Corrective action is fully implemented as required above for this well where the actual isolation distance from any **planned** waste storage facility was not adequate.

   Verified By: _____ Date: _____

   Record documentation supporting verification below or attached supporting documentation:

   _____

   _____

   _____

#1

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS

Instructions: At the top of the table, enter the identification/description of each waste storage facility within 800 feet of the well and circle Existing or Planned for each storage. Then indicate whether or not the each well protection factor applies relative to each waste storage facility. Use information from the well records and information on the individual waste storage facility. Where on-site soils investigations provide additional information, attach a copy of the investigation report and note on the worksheet where the investigation information altered the worksheet results, as applicable. **After completing the table, return to step 5 on Part B-1.**

Producer Name: Walnutdale **County:** Allegan **Prepared by:** JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Well Identification: Along 14th st (1992)	**Waste Storage Facilities within 800 feet of the Well**			
	Identification/Description: P.F 1	Identification/Description: P.F 2	Identification/Description: Slurry Store	Identification/Description: Settling Tank
Well Protection Factors	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned
A - Ground water flow direction is away from well	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)
B - Confining material of 10 feet of continuous clay or shale or 20 feet of a continuous clay mixture* below the design bottom elevation of the waste storage facility	(YES) / NO (circle one) Thickness = 16 feet		(CLAY), CLAY MIXTURE or SHALE (circle one)	
C - Well casing depth is 100 feet or more	YES / (NO) (circle one) Actual Casing Depth = 85' feet			
D - Well pump capacity is 25 gallons per minute or less	(YES) / NO (circle one) Well pump capacity = 20 gallons per minute			
E - Confining material [minimum of 10 feet continuous clay or shale or 20 feet continuous clay mixture* below the design bottom elevation of the waste storage facility] + Well casing depth [minimum of 60 feet casing depth] = 100 feet or more	(YES) / NO (circle one) Thickness = 16 feet Actual Casing Depth = 85' feet		(CLAY), CLAY MIXTURE or SHALE (circle one)	
F - Waste storage facility constructed with flexible membrane liner, reinforced concrete**, or steel, or solid manure stacking facility with roof and concrete floor constructed in accordance with USDA NRCS-Michigan Field Office Technical Guide standards/specifications and sited/graded to protect the water supply in the event of failure	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Pre Fab Slurry Store	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete
List the well protection factors (**A**, **B**, **C**, **D**, **E**, or **F**) with a "Yes" response for each individual waste storage facility.	BDEF	BDEF	BDEF	BDEF
Minimum Well Isolation Distance in feet (based on Part B-1 step 1, Part B-1 step 3, or Isolation Distance Reduction table at the bottom of Part A, whichever is less.)	200 Feet	200 Feet	200 Feet	200 Feet
Actual Well Isolation Distance in feet.	336' Feet	314' Feet	545' Feet	502' Feet
Is the Actual Well Isolation Distance **LESS** than the Minimum Well Isolation Distance?	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)

*Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as "clay/sand/gravel," clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as "sand/clay," it would not be acceptable as a continuous clay mixture since sand is the dominant material.

**Note – Reinforced concrete structures include tanks with pre-cast or cast-in-place reinforced concrete walls and plain concrete floors where: (1) the floor is placed below the natural ground surface to a depth equal to at least 3/4 of the maximum wall height, and (2) the walls are backfilled to a depth equal to at least 3/4 of the wall height.

#2

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS

Instructions: At the top of the table, enter the identification/description of each waste storage facility within 800 feet of the well and circle Existing or Planned for each storage. Then indicate whether or not the each well protection factor applies relative to each waste storage facility. Use information from the well records and information on the individual waste storage facility. Where on-site soils investigations provide additional information, attach a copy of the investigation report and note on the worksheet where the investigation information altered the worksheet results, as applicable. **After completing the table, return to step 5 on Part B-1.**

Producer Name: Walnutdale **County:** Allegan **Prepared by:** JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Well Identification: Along 14 Mile Rd

Well Protection Factors	Waste Storage Facilities within 800 feet of the Well			
	Identification/Description: P.F 6	Identification/Description: P.F 7	Identification/Description: P.F 8	Identification/Description: Catch Basin
	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned
A - Ground water flow direction is away from well	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)
B - Confining material of 10 feet of continuous clay or shale or 20 feet of a continuous clay mixture* below the design bottom elevation of the waste storage facility	(YES) / NO (circle one) Thickness = 16 feet		(CLAY), CLAY MIXTURE or SHALE (circle one)	
C - Well casing depth is 100 feet or more	YES / (NO) (circle one) Actual Casing Depth = 85' feet			
D - Well pump capacity is 25 gallons per minute or less	(YES) / NO (circle one) Well pump capacity = 20 gallons per minute			
E - Confining material [minimum of 10 feet continuous clay or shale or 20 feet continuous clay mixture* below the design bottom elevation of the waste storage facility] + Well casing depth [minimum of 60 feet casing depth] = 100 feet or more	(YES) / NO (circle one) Thickness = 16 feet Actual Casing Depth = 85' feet		CLAY, CLAY MIXTURE or SHALE (circle one)	
F - Waste storage facility constructed with flexible membrane liner, reinforced concrete**, or steel, or solid manure stacking facility with roof and concrete floor constructed in accordance with USDA NRCS-Michigan Field Office Technical Guide standards/specifications and sited/graded to protect the water supply in the event of failure	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Rubber Lined	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Rubber Lined
List the well protection factors (**A**, **B**, **C**, **D**, **E**, or **F**) with a "Yes" response for each individual waste storage facility.	BDEF	BDEF	BDEF	BDEF
Minimum Well Isolation Distance in feet (based on Part B-1 step 1, Part B-1 step 3, or Isolation Distance Reduction table at the bottom of Part A, whichever is less.)	200 Feet	200 Feet	200 Feet	200 Feet
Actual Well Isolation Distance in feet.	648 Feet	908 Feet	907 Feet	600 Feet
Is the Actual Well Isolation Distance **LESS** than the Minimum Well Isolation Distance?	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)

*Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as "clay/sand/gravel," clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as "sand/clay," it would not be acceptable as a continuous clay mixture since sand is the dominant material.

**Note – Reinforced concrete structures include tanks with pre-cast or cast-in-place reinforced concrete walls and plain concrete floors where: (1) the floor is placed below the natural ground surface to a depth equal to at least 3/4 of the maximum wall height, and (2) the walls are backfilled to a depth equal to at least 3/4 of the wall height.

MICHIGAN DEPARTMENT OF PUBLIC HEALTH

WATER WELL AND PUMP RECORD

GEOLOGICAL SURVEY NO. [ ]

PERMIT NUMBER [ ][ ][ ][ ][ ][ ][ ][ ]

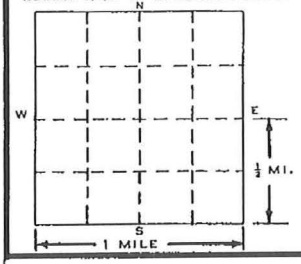
1 LOCATION OF WELL

County	Township Name	Fraction	Section Number	Town Number	Range Number
ALLEGAN	DORR	SW ¼ SW ¼ NW ¼	13	04N N/S	12W E/W

Distance And Direction From Road Intersection

Street Address & City of Well Location: 4309 14TH ST. WAYLAND, MI

Locate with "X" in Section Below



Sketch Map:

3 OWNER OF WELL:

RALPH LETTINGA

Address 4309 14TH ST
WAYLAND, MI 49348

Address Same As Well Location? [X] Yes [ ] No

4 WELL DEPTH: 93" FT. | Date Completed MO. 09 DAY 26 YEAR 92 | [X] New Well [ ] Replacement Well

5 [ ] Cable tool [X] Rotary [ ] Driven [ ] Dug [ ] Hollow rod [ ] Auger [ ] Jetted [ ] ____

6 USE: [ ] Domestic [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat pump [ ] Test Well [ ] Type IIb Public [X] FARM

7 CASING: Diameter [ ] Steel [ ] Threaded [X] Plastic [ ] Welded
5" in. to 85' ft. depth
____ in. to ____ ft. depth
Grouted Drilled Hole Diameter 8" in. to 60 ft. depth
____ in. to ____ ft. depth

Height: Above/Below Surface 1 ft.
Weight 200 lbs./ft.
Drive Shoe [ ] Yes [ ] No

2 FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
RED CLAY	12.0	12.0
GRAY CLAY	4.0	16.0
STONES	2.0	18.0
SANDY GRAY CLAY	58.0	76.0
SAND	18.0	94.0
GRAVEL & CLAY	1.0	95.0

USE A 2ND SHEET IF NEEDED

8 SCREEN: [ ] Not Installed
Type STAINLESS Diameter 4"
Slot/Gauze .025 Length 8'
Set between 85 ft. and 93 ft.
FITTINGS: [X] K-Packer [ ] Lead Packer [ ] Bremer Check
[X] Blank above screen .5 ft. Other ____

9 STATIC WATER LEVEL:
45" ft. below land surface [ ] Flow

10 PUMPING LEVEL: below land surface
85" ft. after 1 hrs. pumping at 65 G.P.M. AIR
____ ft. after ____ hrs. pumping at ____ G.P.M.

11 WELL HEAD COMPLETION: [X] Pitless adapter [ ] 12" above grade [ ] Basement offset [ ] Approved pit

12 WELL GROUTED? [ ] No [X] Yes From 0 to 60 ft.
[ ] Neat cement [X] Bentonite [ ] Other ____
No. of bags of cement ____ Additives 3BGSBNSL

13 Nearest source of possible contamination
Type BARN Distance 75' ft. Direction E
Well disinfected upon completion? [X] Yes [ ] No
Was old well plugged? [ ] Yes [ ] No

14 PUMP: [ ] Not Installed [ ] Pump Installation Only
Manufacturer's name GOULDS
Model number 18E10412 HP 1 Volts 230
Length of Drop Pipe P1.25" ft. capacity 70 @20' G.P.M. 24
TYPE: [X] Submersible [ ] Jet AQUA-AIR
PRESSURE TANK:
Manufacturer's name ____
Model number V-250 Capacity 84 Gallons

15. Remarks, elevation, source of data, etc.
NITRATES 3 PPM
6 BAGS GIBRALTER GRAVEL PACK SAND.

17. Rig Operator's Name: STEVEN BUER

16. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

BUER WELL DRILLING 41-1772
REGISTERED BUSINESS NAME REGISTRATION NO.
299 E. MAIN, CALEDONIA, MI 49316
Address

Signed Norman D Buer Date 9-29-92
AUTHORIZED REPRESENTATIVE

D67d 2/89

Authority: Act 368 PA 1978
Completion: Required
Penalty: Conviction of a violation of any provision is a misdemeanor.

GEOLOGICAL SURVEY COPY

PART B-1

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS (following the criteria listed in Waste Storage Facility Practice Standard, Table 1)

Producer Name: Walnutdale **County:** Allegan

Well Identification: Barns Well (1999)

Prepared by: JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Instructions: Complete a separate Part B for each well within 800 feet of any existing or planned waste storage facility on the farm. **Attach a copy of the well record, if available.**

1. Has the Michigan Department of Environmental Quality or the local health department issued a permit or a deviation for this well in full consideration of the location of **any** existing or planned waste storage facilities located within 800 feet of this well? YES / (NO) (circle one)
   If YES, use the isolation distance allowed by the permit or deviation and record that distance in the Minimum Well Isolation Distance block on Part B-2 for each Waste Storage Facility where the permit or deviation applies (attach copy of permit or deviation). Proceed to step 2.
   If NO, proceed to step 2.
2. Does the well casing extend at **least** 25 feet below the ground surface? (YES) / NO (circle one)
   If YES, proceed to step 3.
   If NO, casing depth is less than allowed by state of Michigan law. Unless casing depth is extended to at least 25 feet, a variance is required from MDEQ or the local health department in order to proceed.
3. Do any of the following conditions apply?
   The well record indicates the well is a Type IIb or Type III public well. YES / (NO) (circle one)
   The well is used for the milkhouse or milking parlor for a Grade A dairy. YES / (NO) (circle one)
   The well is connected to a potable plumbing system and is on a farm that has at least one employee at any time during the year. YES / (NO) (circle one)
   If YES to **any** of the above conditions, this is a public well. Proceed to Step 4.
   If NO to **all** of the above conditions, this is a private well. Proceed to Part B-2 recording 150 feet in the Minimum Well Isolation Distance block.
4. Is the well capacity **less** than 70 gallons per minute? (YES) / NO (circle one) Is the project withdrawal average not more than 100,000 gallons per day for any 30 consecutive days? YES / NO (circle one)
   If YES to **either** question, proceed to Part B-2.
   If NO to **both** questions, capacity exceeds the limit established by MDEQ. Unless capacity or withdrawal is reduced, a variance is required from MDEQ or the local health department in order to proceed.
5. Are there any **planned** waste storage facilities noted in Part B-2 where the Actual Isolation Distance is **less** than the Minimum Isolation Distance? YES / (NO) (circle one)
   If YES, proceed to step 6.
   If NO, proceed to Part A step 2.
6. List the **planned** waste storage facility(s) and the correction action(s) needed so the Actual Isolation Distance is equal to or greater than the Minimum Isolation Distance then proceed to Part A step 2.

Planned Waste Storage Facility	Corrective Action(s) Required

7. **Verification of Corrective Action:** Corrective action is fully implemented as required above for this well where the actual isolation distance from any **planned** waste storage facility was not adequate.

   Verified By: _____ Date: _____

   Record documentation supporting verification below or attached supporting documentation:

   _____

   _____

   _____

#1

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS

Instructions: At the top of the table, enter the identification/description of each waste storage facility within 800 feet of the well and circle Existing or Planned for each storage. Then indicate whether or not the each well protection factor applies relative to each waste storage facility. Use information from the well records and information on the individual waste storage facility. Where on-site soils investigations provide additional information, attach a copy of the investigation report and note on the worksheet where the investigation information altered the worksheet results, as applicable. **After completing the table, return to step 5 on Part B-1.**

Producer Name: Walnutdale **County:** Allegan **Prepared by:** JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Well Identification: Burns Well (1999)	**Waste Storage Facilities within 800 feet of the Well**			
	Identification/Description: Pit 1	Identification/Description: Pit 2	Identification/Description: Slurry Store	Identification/Description: Settling Tank
Well Protection Factors	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned
A - Ground water flow direction is away from well	(YES) / NO / UNKNOWN (circle one)	(YES) / NO / UNKNOWN (circle one)	(YES) / NO / UNKNOWN (circle one)	(YES) / NO / UNKNOWN (circle one)
B - Confining material of 10 feet of continuous clay or shale or 20 feet of a continuous clay mixture* below the design bottom elevation of the waste storage facility	(YES) / NO (circle one) Thickness = 60 feet		(CLAY, CLAY MIXTURE or SHALE) (circle one)	
C - Well casing depth is 100 feet or more	YES / (NO) (circle one) Actual Casing Depth = 83 feet			
D - Well pump capacity is 25 gallons per minute or less	(YES) / NO (circle one) Well pump capacity = 22 gallons per minute			
E - Confining material [minimum of 10 feet continuous clay or shale or 20 feet continuous clay mixture* below the design bottom elevation of the waste storage facility] + Well casing depth [minimum of 60 feet casing depth] = 100 feet or more	(YES) / NO (circle one) Thickness = 60 feet Actual Casing Depth = 83 feet		(CLAY, CLAY MIXTURE or SHALE) (circle one)	
F - Waste storage facility constructed with flexible membrane liner, reinforced concrete**, or steel, or solid manure stacking facility with roof and concrete floor constructed in accordance with USDA NRCS-Michigan Field Office Technical Guide standards/specifications and sited/graded to protect the water supply in the event of failure	YES / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	YES / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	YES / NO (circle one) Describe facility type and liner, as appropriate: Pre Fab Slurry Store	YES / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete
List the well protection factors (**A**, **B**, **C**, **D**, **E**, or **F**) with a "Yes" response for each individual waste storage facility.	BDEF	BDEF	BDEF	BDEF
Minimum Well Isolation Distance in feet (based on Part B-1 step 1, Part B-1 step 3, or Isolation Distance Reduction table at the bottom of Part A, whichever is less.)	150 Feet	150 Feet	150 Feet	150 Feet
Actual Well Isolation Distance in feet.	775 Feet	655 Feet	296 Feet	382 Feet
Is the Actual Well Isolation Distance **LESS** than the Minimum Well Isolation Distance?	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)

*Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as "clay/sand/gravel," clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as "sand/clay," it would not be acceptable as a continuous clay mixture since sand is the dominant material.

**Note – Reinforced concrete structures include tanks with pre-cast or cast-in-place reinforced concrete walls and plain concrete floors where: (1) the floor is placed below the natural ground surface to a depth equal to at least 3/4 of the maximum wall height, and (2) the walls are backfilled to a depth equal to at least 3/4 of the wall height.

#2

WELL ISOLATION DISTANCE WORKSHEET For WASTE STORAGE FACILITIES And TYPE IIB and III PUBLIC WELLS and PRIVATE WELLS

Instructions: At the top of the table, enter the identification/description of each waste storage facility within 800 feet of the well and circle Existing or Planned for each storage. Then indicate whether or not the each well protection factor applies relative to each waste storage facility. Use information from the well records and information on the individual waste storage facility. Where on-site soils investigations provide additional information, attach a copy of the investigation report and note on the worksheet where the investigation information altered the worksheet results, as applicable. **After completing the table, return to step 5 on Part B-1.**

Producer Name: Walnutdale **County:** Allegan **Prepared by:** JJS **Date:** 5/25 **Checked by:** _____ **Date:** _____

Well Identification: Burns Well (1994)	**Waste Storage Facilities within 800 feet of the Well**			
	Identification/Description: Pit 6	Identification/Description: Pit 7	Identification/Description: Pit 8	Identification/Description: Catch Basin
Well Protection Factors	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned	(Existing) / Planned
A - Ground water flow direction is away from well	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)	YES / NO / (UNKNOWN) (circle one)
B - Confining material of 10 feet of continuous clay or shale or 20 feet of a continuous clay mixture* below the design bottom elevation of the waste storage facility	(YES) / NO (circle one) Thickness = 60 feet		(CLAY, CLAY MIXTURE or SHALE) (circle one)	
C - Well casing depth is 100 feet or more	YES / (NO) (circle one) Actual Casing Depth = 83 feet			
D - Well pump capacity is 25 gallons per minute or less	(YES) / NO (circle one) Well pump capacity = 22 gallons per minute			
E - Confining material [minimum of 10 feet continuous clay or shale or 20 feet continuous clay mixture* below the design bottom elevation of the waste storage facility] + Well casing depth [minimum of 60 feet casing depth] = 100 feet or more	(YES) / NO (circle one) Thickness = 60 feet Actual Casing Depth = 83 feet		(CLAY, CLAY MIXTURE or SHALE) (circle one)	
F - Waste storage facility constructed with flexible membrane liner, reinforced concrete**, or steel, or solid manure stacking facility with roof and concrete floor constructed in accordance with USDA NRCS-Michigan Field Office Technical Guide standards/specifications and sited/graded to protect the water supply in the event of failure	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Reinforced Concrete	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Rubber Liner	(YES) / NO (circle one) Describe facility type and liner, as appropriate: Rubber Liner
List the well protection factors (**A**, **B**, **C**, **D**, **E**, or **F**) with a "Yes" response for each individual waste storage facility.	BDEF	BDEF	BDEF	BDEF
Minimum Well Isolation Distance in feet (based on Part B-1 step 1, Part B-1 step 3, or Isolation Distance Reduction table at the bottom of Part A, whichever is less.)	150 Feet	150 Feet	150 Feet	150 Feet
Actual Well Isolation Distance in feet.	109 Feet	308 Feet	450 Feet	75 Feet
Is the Actual Well Isolation Distance **LESS** than the Minimum Well Isolation Distance?	(YES) / NO (circle one)	YES / (NO) (circle one)	YES / (NO) (circle one)	(YES) / NO (circle one)

*Note – For continuous clay mixtures, when interpreting water well record information contained under Formation Description, the first material named is the dominant material in the strata being described. For example: (a) If the material is described as "clay/sand/gravel," clay is the dominant material and would classify as a continuous clay mixture; (b) If the material is described as "sand/clay," it would not be acceptable as a continuous clay mixture since sand is the dominant material.

**Note – Reinforced concrete structures include tanks with pre-cast or cast-in-place reinforced concrete walls and plain concrete floors where: (1) the floor is placed below the natural ground surface to a depth equal to at least 3/4 of the maximum wall height, and (2) the walls are backfilled to a depth equal to at least 3/4 of the wall height.

DEQ MICHIGAN DEPARTMENT OF ENVIRONMENTAL QUALITY
DRINKING WATER & RADIOLOGICAL PROTECTION DIVISION

WATER WELL AND PUMP RECORD

Completion is required under authority of Part 127 Act 368 PA 1978
Failure to comply is a misdemeanor

NO:

PERMIT NO:

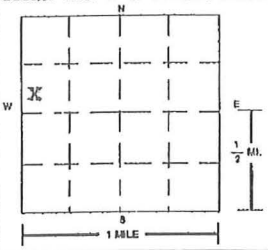
1. LOCATION OF WELL

County	Township Name	Fraction	Section No.	Town No.	Range No.
ALLEGAN	DORR	SW 1/4 SW 1/4 NW 1/4	13	4 N	12 W

Distance and Direction from Road Intersection
NORTH CATTLE BARN

Street Address & City of Well Location
4309 14TH ST.
WAYLAND, MI

Locate with 'x' in Section Below



Sketch Map

3. OWNER OF WELL
Address WALNUTDALE FARMS
4309 14TH ST
WAYLAND, MI 49348
Address Same as Well Location [X] Yes [ ] No

4. WELL DEPTH: 80 ft. | Date Completed 11 / 8 / 99 | [X] New Well [ ] Replacement Well

5. [ ] Cable Tool [X] Rotary [ ] Driven [ ] Dug [ ] Hollow Rod [ ] Auger/Bored [ ] Jetted [ ] _____

6. USE: [ ] Household [ ] Type I Public [ ] Type III Public [ ] Irrigation [ ] Type IIa Public [ ] Heat Pump [ ] Test Well [ ] Type IIb Public [X] CATTLE BARN

7. CASING: [ ] Steel [ ] Threaded [X] Plastic [ ] Welded [ ] Other _____
Diameter: 5 in. to 70 ft. depth
_____ in. to _____ ft. depth
BORE HOLE:
Diameter: 8 in. to 83 ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface: 1 ft
Weight: 2.95 lbs./ft.
[ ] Drive Shoe [ ] Shale Packer

2. FORMATION DESCRIPTION	THICKNESS OF STRATUM	DEPTH TO BOTTOM OF STRATUM
CLAY (RED SANDY)	4	4
CLAY (RED)	8	12
CLAY (GRAY)	48	60
FINE SAND & GRAY CLAY	2	62
SAND (MEDIUM)	8	70
GRAVEL (FINE)	10	80
CLAY (GRAY)	3	83
USE A 2ND SHEET IF NEEDED		

8. SCREEN: [ ] Not Installed [X] Gravel-Packed
Type STAINLESS Diameter 3"
Slot/Gauze .020 & .015 Length: 10'
Set Between 70 ft. and 80 ft.
FITTINGS: [X] K-Packer [ ] Bremer Check
[X] Blank Above Screen .5 ft. Other SS CENTRLZ

9. STATIC WATER LEVEL:
31 ft. Below Land Surface [ ] Flowing

10. PUMPING LEVEL: Below Land Surface
65 ft. After 1 hrs. Pumping at 60 G.P.M.
[ ] Plunger [ ] Bailer [X] Air [ ] Test Pump

11. WELL HEAD COMPLETION:
[X] Pitless Adapter [ ] 12" Above Grade
[ ] Basement Offset [ ] Well House

12. WELL GROUTED? [ ] No [X] Yes From 0 to 61 ft.
[ ] Neat Cement [X] Bentonite [ ] Other _____
No. of Bags 6 Additives _____

13. NEAREST SOURCE OF POSSIBLE CONTAMINATION:
Type BARNYARD Distance 75 ft. Direction E
Type _____ Distance _____ ft. Direction _____

14. PUMP: [ ] Not Installed [ ] Pump Installation Only
Manufacturer's Name GOULDS
Model Number 18GS10 HP 1 Volts 240
Length of Drop Pipe 1 1/4" 60 ft. Capacity 50# 22 G.P.M.
TYPE: [X] Submersible [ ] Jet [ ] Other _____
PRESSURE TANK:
Manufacturer's Name WELL RITE
Model Number WR 260 Capacity 85 Gallons

15. ABANDONED WELL PLUGGED? [ ] Yes [ ] No
Casing Diameter _____ in. Depth _____ ft.
PLUGGING MATERIAL: [ ] Neat Cement [ ] Bentonite Slurry [ ] Cement/Bentonite Slurry [ ] Concrete Grout [ ] Bentonite Chips
No. of Bags _____ Casing Removed? [ ] Yes [ ] No

16. REMARKS: (Elevation, Source of Data, etc.)
NITRATES 0 PPM IRON 0 PPM HARDNESS 15 GR
900# BADGER FILTER PACK/SAND
DR DW 1' AFTER 30 MIN @ 22 GPM

17. DRILLING MACHINE OPERATOR:
[ ] Employee [ ] Subcontractor
Name STEVE BUER #2028

18. WATER WELL CONTRACTOR'S CERTIFICATION:
This well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.
BUER WELL DRILLING (REGISTERED BUSINESS NAME) 41-1772 (REGISTRATION NO.)
Address 239 E. MAIN, CALEDONIA, MI 49316
Signed Norman P Buer (AUTHORIZED REPRESENTATIVE) Date 11/11/99

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EQP 2017 (12/96)